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10/510,313	10/01/2004	Rolf-Dieter Pavlik	2002P03971WOUS	4818

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

JARRETT, RYAN A

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/510,313

Applicant(s)

PAVLIK ET AL.

Examiner

Ryan A. Jarrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006 and 09 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17,20 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17,20 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 17, 20, and 28 are pending in the application and are presented below for examination. This is the first action following a request for continued examination.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/9/06 has been entered.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. This application is a 371 of PCT/DE03/01007, filed 03/26/2003, which claims the benefit of German application no. 10214539.3, filed 04/02/2002.

Oath/Declaration

4. Receipt is acknowledged of the executed declaration filed 12/06/2005.

Drawings

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 1 #2. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

6. Claim 28 is objected to because of the following informalities:

Examiner objects to the use of the term “a production machine” in the preamble of claim 28. This term should be should be changed to something more accurate, e.g., “a production system”. This is because the body of claim 28 also recites “a production machine”, but this production machine is different from the production machine recited in the preamble. The claim is essentially directed to a production system comprising a server “computer”, “a production machine”, and “a client on the network comprising a user display and user input interface”.

Appropriate correction is required.

Specification

7. The disclosure is objected to because of the following informalities:

On page 5 line 1, it appears that "connection" should be changed to "connection 2", per Fig. 1.

On page 6, on the 5th line from the bottom, the term "und" should be changed to "and".

Appropriate correction is required. The list of claim objections above may not be all-inclusive. Applicant should review the claims and make any necessary corrections.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 17, 20, and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claim 28 recites the limitation "wherein the machine process control module is directly configured by the web server kernel unassisted by an external control entity" in line 7. This limitation was added in the amendment filed 03/09/2006, but was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The original specification appears to provide support for "the machine process control" being "directly configured by the web server". But there is no support for this configuring being "unassisted by an external control entity".

In paragraph [0021] of the original specification, it is disclosed (with emphasis added):

[0021] The operating system 50 has direct access to the resources of the computer, for example memory and computing time. If a command is issued or a program is called the necessary program code is loaded into a main memory and started as process. Processes have no access to the resources, they request these in each case from the

operating system. The direct integration of the automation functionality as the seventh expansion module 61 into the Web server means that the power, the services (e.g. autotopology, SSDP, SNMP, e-mail etc.) and the openness of the Internet are made available to the world of automation and the other benefits described above are obtained. The seventh expansion module 61 on the one hand realizes the automation solution and on the other hand exchanges information via the Web server and is configured and administered by the latter. By contrast, with what is known as a SoftPLC (= software simulation of a Programmable Logic Control) the automation function is not integrated into the server but is installed in parallel with it, possibly linked via a communications interface. Integration into the server means in particular that the expansion module can be loaded, configured, started and ended directly by the Web server. This type of expansion module is frequently also referred to as an "extension". The Web server kernel 54 of the Web server serves as a common platform for the expansion modules. This facilitates in particular the configuration of the software expansion modules and their re-use in other applications. The expansion modules are not linked in with proprietary or specially programmed interfaces but with standardized interfaces, for example API (Application Programming Interface) or CGI (Common Gateway Interface). API is a formally-defined interface via which the application programs can use system services (network, operating system etc.) or services of other application programs. CGI describes a standard interface between a Web server and programs. The seventh expansion module 61 features as a means for implementing an automation functionality regulation and/or control means for regulating and/or controlling components as well as processes of an automation system. These regulation and control means for controlling and automation system are usually embodied as executable software processes in the expansion module. The proposed Web server is part of a system of distributed applications constructed in a client-server architecture. In such a system it is the task of a server as provider of a service to undertake computations or other internal processes at the request of a client and to formulate their results as protocol-conformant responses and pass them on to the requesting client. A client here means a device or a process which makes use of the service of one or more servers. Normally the server makes a service available passively and waits for a client to submit a request to it. The client on the other hand does not provide any services itself that makes use of services from a server. A server as provider of a service can be located in this case on the same device as the client or on another device which can be accessed via a network (e.g. the Internet). Client-server communication obeys specific roles and formal descriptions, known as protocols. It is an indispensable requirement for successful communication

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between client and server that both sides use the same protocol. Such a protocol usually specifies the communication channels and the formats with their logon, information interchange, request, response and logoff. Not all of these steps must always be explicitly specified if they are not of significance for the purpose of the application. Protocols are specified to a wide variety of levels of abstraction and usually build on each other. A layer model (e.g. ISO/OSI layer model) is then referred to.

Thus, as seen above, the original specification appears to provide literal support for “the machine process control” being “directly configured by the web server”. But there is no literal support for this configuring being “unassisted by an external control entity”.

Applicant is required to remove the offending limitation from the claim and adhere to the language used in the original disclosure.

This rejection could be potentially overcome by showing that the offending limitation is implied or inherent in the original disclosure. If the rejection is able to be overcome, then the specification would need to be amended to provide proper antecedent basis for the offending limitation. How is the offending limitation implied or inherent in the original disclosure? Does Applicant intend for the offending limitation to be merely representative of a basic client/server relationship, wherein a server manages or configures data and a client merely accesses the data?

Claims 17 and 20 depend from claim 28 and incorporate the same deficiencies.

35 USC § 101

10. Claim 28 is directed to a production system comprising tangible hardware elements such as a server "computer", "a production machine", and "a client on the network comprising a user display and user input interface". Additionally, the claimed system functionality produces a tangible result, namely controlling a production machine. Therefore, there is no 101 rejection.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 20 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuchlin et al., “HighRobot: Telerobotics in the Internet”. Kuchlin et al. discloses:

28. A production machine comprising:

a computer operating system in a computer comprising a real-time reaction capability (e.g., Section 2: “HIGHROBOT is a new parallel high performance controller, based on standard hardware and software...The control unit uses an off-the-shelf SMP (Shared Memory Multiprocessor) SPARCstation with the Solaris 2.x operating system including POSIX.4 extensions. HIGHROBOT uses POSIX.4 soft real-time features to control all components in a robot cell”);

a web server kernel (e.g., Fig. 3: “ObjectServer”) **installed on the computer operating system for data communication with a network** (e.g., Section 3.2-4: “We installed a Web-Server, discussed in section 4, on the HIGHROBOT control making the system accessible via the Internet”), **the web server kernel comprising a standardized interface for software extension modules** (e.g., Section 2: “The control unit uses an off-the-shelf SMP (Shared Memory Multiprocessor) SPARCstation with the Solaris 2.x operating system including POSIX.4 extensions.”, Section 4.2: “Our server integrates all objects that must be accessible from remote

systems. Each object can be considered as a designated server in the common sense. The idea of the concept is to deliver a server architecture which makes the core of the general server independent of the properties of actual supported objects. This makes the general server very flexible and easy to extend with new server object functionality.”, Section 4.2.2: “New body objects can be easily integrated in the general server.”, Section 5: “The general server can be extended easily with new server functionality and results due to its highly reusable code design”);

a machine process control module (e.g., Fig. 3: “RobotBody”) installed on the web server kernel (e.g., Fig. 3: “ObjectServer”) via the standardized extension interface (e.g., Section 4.2.2: “New body objects can be easily integrated in the general server.”), wherein the machine process control module is directly configured by the web server unassisted by an external control entity (e.g., Section 4.2.2: “The idea of the general server is that it manages a collection of body objects which can be manipulated through their corresponding proxy objects”, EN: *The general server manages or configures the body objects (claimed “machine process control module”) without assistance from the external client proxy objects. The body objects (claimed “machine process control module”) can of course be requested, accessed, or manipulated by the external proxy objects at the client, but this is different from the “managing” or “configuring” functions performed by the server. This is just a basic client/server relationship. The server configures the data and the client merely accesses the data.*, Section 4.2.4: “The general server is represented by an object of the *Object-Server* class. It manages various body objects for remote access. The general server coordinates remote requests from various proxy objects by forwarding them to the appropriate body object. Therefore the

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ObjectServer has to keep information about all body objects running under the general server.”,

EN: *The external client proxy objects merely make requests for certain body objects (claimed “machine process control module”), it is the server that actually manages or configures the body objects (claimed “machine process control module”).*);

the machine process control module (e.g., Fig. 3: “RobotBody”) in data communication with a production machine (e.g., Fig. 1: “Robot Arm”, Fig. 3: “Robot”) for monitoring and controlling the machine (e.g., Section 4.3: “The *RobotBody* instance finally reads out the parameters of the MoveLinear() command and invokes the MoveLinear() operation of the real *Robot* instance. The *Robot* instance processes the MoveLinear command.”);

the machine process control module in data communication with the network via the web server kernel (e.g., Fig. 1, Section 3.2-4: “We installed a Web-Server, discussed in section 4, on the HIGHROBOT control making the system accessible via the Internet”); and

a client on the network comprising a user display and user input interface and a communication interface to the network (e.g., Fig. 1: “Internet world-wide”);

whereby a user of the user display and user input interface can monitor and control the production machine remotely via the network (e.g., Section 4.3: “Now, the remote application e.g. may invoke the operation MoveLinear (xPos, yPos, zPos) of the *RobotProxy* instance....Finally the destination parameters xPos, yPos and zPos of the linear robot arm movement are packed in the message. The message is then sent to the general server on the HIGHROBOT control...Finally, the *RobotProxy* object reads the return values and returns them to the client application.”).

20. The production machine according to Claim 28, wherein the Web server is connected via a communications network with a Web browser as operating and monitoring system (e.g., Section 4.1: "Web Browser", Section 5: "The client is written in Java and therefore can be embedded in HTML-pages which are accessible world wide via the Internet").

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchlin et al. as applied to claim 28 above, and further in view of Rathjen et al. US 2004/0015383.

Kuchlin et al. does not appear to explicitly disclose that the Web server comprises a connection to the Internet via a firewall.

Rathjen et al. discloses a system for remotely collecting, visualizing, and modifying operating data of a production machine. The production machine includes a Web server comprising a connection to the Internet via a firewall (e.g., [0053]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kuchlin et al. with Rathjen et al. in order to prevent unauthorized access to the Web server and production machine of Kuchlin et al., as taught by Rathjen et al.

Response to Arguments

15. Applicant's arguments filed 03/09/06 with respect to Kuchlin et al. have been fully considered but they are not persuasive.

It is first noted that the subject matter argued by the Applicant has no literal support in the original disclosure as filed, as detailed above. Notwithstanding that issue, the arguments are addressed below.

Applicant appears to be arguing that the instance of the *RobotProxy* on the client side of Kuchlin et al. "assists" in "configuring" the machine process control module (*RobotBody*) on the server side. However, as noted above in the body of the rejection, the external client proxy objects of Kuchlin et al. merely make requests for certain body objects (claimed "machine process control module"). It is the server that actually manages or configures the body objects (claimed "machine process control module"). This is a basic feature of any client/server relationship. The server manages or configures the data, and the client merely accesses the data. The client does not manage or configure the data. For example Kuchlin et al. discloses in Section 4.2.4:

"The general server is represented by an object of the *Object-Server* class. It manages various body objects for remote access. The general server coordinates remote requests from various proxy objects by forwarding them to the appropriate body object. Therefore the *ObjectServer* has to keep information about all body objects running under the general server."

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16. Applicant's arguments with respect to WO 02/23290 have been considered but are moot. The rejections in view of WO 02/23290 have been withdrawn without prejudice.

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Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan A. Jarrett
Examiner
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5/9/06